



1994 Rec'd PCT/PTO 03 JUL 2002  
5000 PATENT

Practitioner's Docket No. NEB-164-PUS

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: Sandman, et al.

Application No.: 09/937,187 Group No.:

Filed: September 21, 2001 Examiner:

For: Surface Display of Selenocysteine-Containing Peptides

**Box Sequence**

Assistant Commissioner for Patents

Washington, D.C. 20231

**SUBMISSION OF "SEQUENCE LISTING," COMPUTER READABLE COPY,  
AND/OR AMENDMENT PERTAINING THERETO  
FOR BIOTECHNOLOGY INVENTION CONTAINING NUCLEOTIDE  
AND/OR AMINO ACID SEQUENCE**

(check and complete this item, if applicable)

1. ☒ This replies to the Office Letter dated 22 May 2002

NOTE: If these papers are filed before the office letter issues, adequate identification of the original papers should be made, e.g., in addition to the name of the inventor and title of invention, the filing date based on the "Express Mail" procedure, the application number from the return post card or the attorney's docket number added.

- ☒ A copy of the Office Letter is enclosed.

**CERTIFICATION UNDER 37 C.F.R. §§ 1.8(a) and 1.10\***

(When using Express Mail, the Express Mail label number is mandatory;  
Express Mail certification is optional.)

I hereby certify that, on the date shown below, this correspondence is being:

**MAILING**

- ☒ deposited with the United States Postal Service in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231

37 C.F.R. § 1.8(a)

- ☐ with sufficient postage as first class mail.

37 C.F.R. § 1.10\*

- ☐ as "Express Mail Post Office to Addressee"

Mailing Label No. \_\_\_\_\_ (mandatory)

**TRANSMISSION**

- ☐ transmitted by facsimile to the Patent and Trademark Office.

Signature

Melissa A. Jackson

(type or print name of person certifying)

Date: 5/29/02

**\*WARNING:** Each paper or fee filed by Express Mail must have the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 C.F.R. § 1.10(b).

"Since the filing of correspondence under § 1.10 without the Express Mail mailing label thereon is an oversight that can be avoided by the exercise of reasonable care, requests for waiver of this requirement will not be granted on petition." Notice of Oct. 24, 1996, 60 Fed. Reg. 56,439, at 56,442.

(Submission—Nucleotide and/or Amino Acid Sequence [9-37]—page 1 of 6)

**IDENTIFICATION OF PERSON MAKING STATEMENT**

2. I, Gregory D. Williams  
(type or print name of declarant signing below)

state the following:

**ITEMS BEING SUBMITTED**

3. Submitted herewith is/are:

(check each item as applicable)

- A. ☒ "Sequence Listing(s)" for the nucleotide and/or amino acid sequence(s) in this application. Each "Sequence Listing" is assigned a separate identifier as required in 37 C.F.R. § 1.821(c) and 37 C.F.R. §§ 1.822 and 1.823.
- B. ☐ An amendment to the description and/or claims, wherein reference is made to the sequence by use of the assigned identifier, as required in 37 C.F.R. § 1.821(d).
- C. ☒ A copy of each "Sequence Listing" submitted for this application in computer readable form, in accordance with the requirements of 37 C.F.R. §§ 1.821(e) and 1.824.
- D. ☐ Please transfer to this application, in accordance with 37 C.F.R. § 1.821(e), the computer readable copy(ies) from applicant's other application identified as follows:

In re application of:

Application No.: 0 /

Group No.:

Filed:

Examiner:

For:

The Computer readable form(s) of applicant's other application corresponds to the "Sequence Identifier(s)" of the application as follows:

Computer Readable Form  
(other application)

"Sequence Identifier"  
(this application)

NOTE: "If the computer readable form of a new application is to be identical with the computer readable form of another application of the applicant on file in the Office, reference may be made to the other application and computer readable form in lieu of filing a duplicate computer readable form in the new application. The new application shall be accompanied by a letter making such reference to the other application and computer readable form, both of which shall be completely identified." 37 C.F.R. § 1.821(e).

- E. ☒ A statement that the content of each "Sequence Listing" submitted and each computer readable copy are the same, as required in 37 C.F.R. § 1.821(g).
- ☐ Because the statement is not made by a person registered to practice before the Office, the statement is verified as required in 37 C.F.R. § 1.821(b).
- F. ☒ Because this submission is made in fulfilling the requirement under 37 C.F.R. § 1.821(g), a statement that the submission includes no new matter.
- ☐ Because the statement is not made by a person registered to practice before the Office, the statement is verified, as required in 37 C.F.R. § 1.821(g).

**STATEMENT THAT "SEQUENCE LISTING"  
AND COMPUTER READABLE COPY ARE THE SAME  
AND/OR THAT PAPERS SUBMITTED INCLUDES NO NEW MATTER**

4. I hereby state:

*(complete applicable item A and/or B)*

- A. ☒ Each computer readable form submitted in this application, including those forms requested to be transferred from applicant's other application, is the same as the "Sequence Listing" to which it is indicated to relate.
- B. ☒ All papers accompanying this submission, or for which a request for transfer from applicants' other application, introduce no new matter.

**STATUS**

5. Applicant is

- ☒ a small entity. A statement:
- ☐ is attached.
- ☒ was already filed.
- ☐ other than a small entity.

(Submission—Nucleotide and/or Amino Acid Sequence [9-37]—page 3 of 6)

## EXTENSION OF TERM

6.

**NOTE:** *"Extension of Time in Patent Cases (Supplement Amendments)—If a timely and complete response has been filed after a Non-Final Office Action, an extension of time is not required to permit filing and/or entry of an additional amendment after expiration of the shortened statutory period.*

*If a timely response has been filed after a Final Office Action, an extension of time is required to permit filing and/or entry of a Notice of Appeal or filing and/or entry of an additional amendment after expiration of the shortened statutory period unless the timely-filed response placed the application in condition for allowance. Of course, if a Notice of Appeal has been filed within the shortened statutory period, the period has ceased to run." Notice of Dec. 10, 1985 (1061 O.G. 34-35).*

**NOTE:** See 37 C.F.R. § 1.645 for extensions of time in interference proceedings and 37 C.F.R. § 1.550(c) for extensions of time in reexamination proceedings.

7. The proceedings herein are for a patent application and the provisions of 37 C.F.R. § 1.136 apply.

*(complete (a) or (b) as applicable)*

(a) ☐ Applicant petitions for an extension of time under 37 C.F.R. § 1.136 (fees: 37 C.F.R. § 1.17(a)(1)-(4)) for the total number of months checked below:

Extension (months)	Fee for other than small entity	Fee for small entity
<input type="checkbox"/> one month	\$ 110.00	\$ 55.00
<input type="checkbox"/> two months	\$ 390.00	\$ 195.00
<input type="checkbox"/> three months	\$ 890.00	\$ 445.00
<input type="checkbox"/> four months	\$ 1,390.00	\$ 695.00

Fee: \$\_\_\_\_\_

If an additional extension of time is required, please consider this a petition therefor.

*(check and complete the next item, if applicable)*

☐ An extension for \_\_\_\_\_ months has already been secured. The fee paid therefor of \$\_\_\_\_\_ is deducted from the total fee due for the total months of extension now requested.

Extension fee due with this request \$\_\_\_\_\_

**OR**

(b) ☒ Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition for extension of time.

### FEE PAYMENT

8. ☐ Attached is a ☐ check ☐ money order in the amount of \$ \_\_\_\_\_  
☐ Authorization is hereby made to charge the amount of \$ \_\_\_\_\_  
☐ to Deposit Account No. \_\_\_\_\_  
☐ to Credit card as shown on the attached credit card information authorization form PTO-2038.

**WARNING:** Credit card information should not be included on this form as it may become public.

- ☒ Charge any additional fees required by this paper or credit any overpayment in the manner authorized above.

A duplicate of this paper is attached.

### FEE DEFICIENCY

9.

**NOTE:** If there is a fee deficiency and there is no authorization to charge an account, additional fees are necessary to cover the additional time consumed in making up the original deficiency. If the maximum, six-month period has expired before the deficiency is noted and corrected, the application is held abandoned. In those instances where authorization to charge is included, processing delays are encountered in returning the papers to the PTO Finance Branch in order to apply these charges prior to action on the cases. Authorization to charge the deposit account for any fee deficiency should be checked. See the Notice of April 7, 1986, 1065 O.G. 31-33.

10. ☒ If any additional extension and/or fee is required, charge  
☒ Deposit Account No. 14-0740  
☐ Credit card as shown on the attached credit card information authorization form PTO-2038.

**WARNING:** Credit card information should not be included on this form as it may become public.

### SIGNATURE(s)

Gregory D. Williams

(type or print name of person signing statement)

  
\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date  
32 Tozer Road

\_\_\_\_\_  
P.O. Address of Signatory  
Beverly, MA 01915

(if applicable)

Telephone No. (978) 927-5054 X:292  
Reg. No. 30901  
Customer No.: 28986

- ☐ Inventor(s)  
☐ Assignee of complete interest  
☐ Person authorized to sign on behalf of assignee  
☒ Practitioner of record  
☐ Filed under Rule 34(a)  
☒ Registration No. 30901  
☐ Other \_\_\_\_\_

(specify identity of declarant)



(complete the following, if applic

New England Biolabs, Inc.

(type name of assignee)

32 Tozer Road

Address of assignee

Beverly, MA 01915

Secretary

Title of person authorized to sign on behalf of  
assignee

A "STATEMENT UNDER 37 C.F.R. § 3.73(b)" is attached.


Assignment recorded in PTO on September 21, 2001

Reel 012344 Frame 0412

Reg. No.: 30901

Tel. No.: ( 978 ) 92705954 (292)

Customer No.: 28986

  
\_\_\_\_\_  
SIGNATURE OF PRACTITIONER

Gregory D. Williams

General Counsel

(type or print name of practitioner)

New England Biolabs, Inc.

32 Tozer Road

P.O. Address

Beverly, MA 01915



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents, Box PCT  
 United States Patent and Trademark Office  
 Washington, D.C. 20231  
 www.uspto.gov

U.S. APPLICATION NUMBER NO.	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
09/937,187	Karen E Sandman	NEB -164-PUS

28986  
 NEW ENGLAND BIOLABS, INC.  
 32 TOZER ROAD  
 BEVERLY, MA 01915



INTERNATIONAL APPLICATION NO.	
PCT/US00/13292	
I.A. FILING DATE	PRIORITY DATE
05/12/2000	

CONFIRMATION NO. 4950

371 FORMALITIES LETTER



\*OC000000008136939\*

Date Mailed: 05/22/2002

### NOTIFICATION OF DEFECTIVE RESPONSE

The following items have been submitted by the applicant or the IB to the United States Patent and Trademark Office as a Designated Office (37 CFR 1.494):

- U.S. Basic National Fee
- Indication of Small Entity Status
- Assignee Statement
- Biochemical Sequence Diskette
- Biochemical Sequence Listing
- Copy of IPE Report
- Copy of references cited in ISR
- Copy of the International Application
- Copy of the International Search Report
- Information Disclosure Statements
- Oath or Declaration
- Request for Immediate Examination
- Small Entity Statement

The following items **MUST** be furnished within the period set forth below in order to complete the requirements for acceptance under 35 U.S.C. 371:

**Applicant is required to complete the response within a time limit of ONE MONTH from the date of this Notification or within the time remaining in the response set forth in the Notification of Missing Requirements, whichever is the longer. No extension of this time limit may be granted under 37 CFR 1.136, but the period for response set in the Notification of Missing Requirements may be extended under 37 CFR 1.136(a).**

The following items **MUST** be furnished within the period set forth below:

- The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 CFR 1.821-1.825 for the following reason(s):

- The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A substitute computer readable form must be submitted as required by 37 CFR 1.825(d).
  - RAW SEQUENCE LISTING ERROR REPORT
  - APPLICANT MUST PROVIDE:
    - An initial or substitute computer readable form (CRF) of the "Sequence Listing."
    - An initial or substitute paper copy or compact disc of the "Sequence Listing," as well as an amendment directing its entry into the specification.
- For questions regarding compliance to 37 CFR 1.821-1.825 requirements, please contact:
- For Rules Interpretation, call (703) 308-4216
  - To Purchase PatentIn Software, call (703) 306-2600
  - For PatentIn Software Program Help, call (703) 306-4119 or e-mail at [patin21help@uspto.gov](mailto:patin21help@uspto.gov) or [patin3help@uspto.gov](mailto:patin3help@uspto.gov)
- The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A substitute computer readable form must be submitted as required by 37 CFR 1.825(d).

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

*A copy of this notice **MUST** be returned with the response.*

SHELBY J VIGIL

Telephone: (703) 305-3653

PART 1 - ATTORNEY/APPLICANT COPY

U.S. APPLICATION NUMBER NO.	INTERNATIONAL APPLICATION NO.	ATTY. DOCKET NO.
09/937,187	PCT/US00/13292	NEB -164-PUS





Raw Sequence Listing Error Summary

**ERROR DETECTED**

**SUGGESTED CORRECTION**

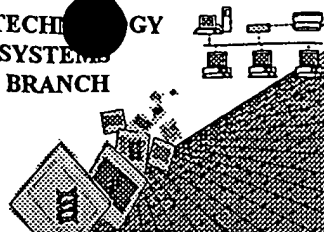
SERIAL NUMBER: 09/937,187

TTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

- 1      Wrapped Nucleics  
    Wrapped Aminos      The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."
- 2      Invalid Line Length      The rules require that a line not exceed 72 characters in length. This includes white spaces.
- 3      Misaligned Amino  
    Numbering      The numbering under each 5<sup>th</sup> amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.
- 4      Non-ASCII      The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.
- 5      Variable Length      Sequence(s)          contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.
- 6      PatentIn 2.0  
    "bug"      A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s)         . Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
- 7      Skipped Sequences  
    (OLD RULES)      Sequence(s)          missing. If intentional, please insert the following lines for each skipped sequence:  
    (2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  
    (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)  
    (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  
    This sequence is intentionally skipped  
  
    Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.
- 8      Skipped Sequences  
    (NEW RULES)      Sequence(s)          missing. If intentional, please insert the following lines for each skipped sequence.  
    <210> sequence id number  
    <400> sequence id number  
    000
- Use of n's or Xaa's  
    (NEW RULES)      Use of n's and/or Xaa's have been detected in the Sequence Listing.  
    Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.  
    In <220> to <223> section, please explain location of n or Xaa; and which residue n or Xaa represents.
- 9      Invalid <213>  
    Response      Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence
- 10      Use of <220>      Sequence(s)          missing the <220> "Feature" and associated numeric identifiers and responses.  
    Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.  
    (See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)
- 11      PatentIn 2.0  
    "bug"      Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.
- 12      Misuse of n      n can only be used to represent a single nucleotide in a nucleic acid sequence. N is not used to represent any value not specifically a nucleotide.



BIOTECHNOLOGY  
SYSTEMS  
BRANCH



## RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/937,187  
Source: PCR/09  
Date Processed by STIC: 2/6/2002

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: [patin21help@uspto.gov](mailto:patin21help@uspto.gov) or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: [patin3help@uspto.gov](mailto:patin3help@uspto.gov) or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.1 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: U.S. Patent and Trademark Office, Box Sequence, P.O. Box 2327, Arlington, VA 22202
3. Hand Carry directly to:  
U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7<sup>th</sup> Floor, Examiner Name, Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202  
Or  
U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202
4. Federal Express, United Parcel Service, or other delivery service to: U.S. Patent and Trademark Office, Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

Revised 01/29/2002



PCT/09

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/937,187

DATE: 02/06/2002  
TIME: 18:41:31

Input Set : A:\Neb-164.app  
Output Set : N:\CRF3\02062002\I937187.raw

*pg 1-5*  
Does Not Comply

Corrected Diskette Needed

3 <110> APPLICANT: SANDMAN, KAREN E.  
4 NOREN, CHRISTOPHER J.  
5 NEW ENGLAND BIOLABS, INC.  
7 <120> TITLE OF INVENTION: SURFACE DISPLAY OF SELENOCYSTEINE-CONTAINING PEPTIDES  
9 <130> FILE REFERENCE: NEB-164-PCT

11 <140> CURRENT APPLICATION NUMBER: US/09/937,187

12 <141> CURRENT FILING DATE: 2002-01-08

14 <150> PRIOR APPLICATION NUMBER: 60/134,286

15 <151> PRIOR FILING DATE: 1999-05-14

17 <160> NUMBER OF SEQ ID NOS: 42

19 <170> SOFTWARE: PatentIn Ver. 2.0

21 <210> SEQ ID NO: 1

22 <211> LENGTH: 38

23 <212> TYPE: RNA

24 <213> ORGANISM: Synthetic

26 <220> FEATURE:

27 <223> OTHER INFORMATION: N = A, G, C, or U

29 <220> FEATURE:

30 <223> OTHER INFORMATION: K = G and U

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38

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36 <211> LENGTH: 24

37 <212> TYPE: DNA

38 <213> ORGANISM: Synthetic

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24

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61 <212> TYPE: DNA

62 <213> ORGANISM: Synthetic

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/937,187.

DATE: 02/06/2002

TIME: 18:41:31

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Output Set: N:\CRF3\02062002\I937187.raw

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126 <213> ORGANISM: Synthetic
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## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/937,187

DATE: 02/06/2002

TIME: 18:41:31

Input Set : A:\Neb-164.app

Output Set: N:\CRF3\02062002\I937187.raw

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182 <213> ORGANISM: Synthetic	
184 <400> SEQUENCE: 20	
185 gcgagtccta cttgatttaa gccg	24
187 <210> SEQ ID NO: 21	
188 <211> LENGTH: 24	
189 <212> TYPE: DNA	
190 <213> ORGANISM: Synthetic	
192 <400> SEQUENCE: 21	
193 tgtgtcatc cgtgatctac tcgt	24

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/937,187

DATE: 02/06/2002

TIME: 18:41:31

Input Set : A:\Neb-164.app

Output Set : N:\CRF3\02062002\I937187.raw

```

195 <210> SEQ ID NO: 22
196 <211> LENGTH: 24
197 <212> TYPE: DNA
198 <213> ORGANISM: Synthetic
200 <400> SEQUENCE: 22
201 cagtcgacgc ggtgatggaa tgat
203 <210> SEQ ID NO: 23
204 <211> LENGTH: 24
205 <212> TYPE: DNA
206 <213> ORGANISM: Synthetic
208 <400> SEQUENCE: 23
209 attgtggagt cgtgattgaa tccg
211 <210> SEQ ID NO: 24
212 <211> LENGTH: 24
213 <212> TYPE: DNA
214 <213> ORGANISM: Synthetic
216 <400> SEQUENCE: 24
217 acgcagcgta tgtgattgcc gccc
219 <210> SEQ ID NO: 25
220 <211> LENGTH: 24
221 <212> TYPE: DNA
222 <213> ORGANISM: Synthetic
224 <400> SEQUENCE: 25
225 gtgcagtata cgtgattgcc gaag
227 <210> SEQ ID NO: 26
228 <211> LENGTH: 24
229 <212> TYPE: DNA
230 <213> ORGANISM: Synthetic
232 <400> SEQUENCE: 26
233 gctgggcagt cgtgatcgac tgat
235 <210> SEQ ID NO: 27
236 <211> LENGTH: 24
237 <212> TYPE: DNA
238 <213> ORGANISM: Synthetic
240 <400> SEQUENCE: 27
241 ctgtctgcga gtcgatcgca gttt
243 <210> SEQ ID NO: 28
244 <211> LENGTH: 8
245 <212> TYPE: PRT
246 <213> ORGANISM: Synthetic
248 <220> FEATURE:
249 <223> OTHER INFORMATION: At position 5, X = Selenocysteine
251 <400> SEQUENCE: 28
-> 252 Ser Ala Arg Val Xaa His Gly Pro
253 1 5
256 <210> SEQ ID NO: 29
257 <211> LENGTH: 98
258 <212> TYPE: DNA
259 <213> ORGANISM: Synthetic

```

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/937,187

DATE: 02/06/2002  
TIME: 18:41:31

Input Set : A:\Neb-164.app  
Output Set: N:\CRF3\02062002\I937187.raw

```

261 <400> SEQUENCE: 29
262 catgttttcgg ccgtagcgac cgattggtgc agacctgcaa ccgatgggcc gtgtcagaca 60
263 cgagcgctag agtgagaata gaaaggtacc cgggcatg 98
265 <210> SEQ ID NO: 30
266 <211> LENGTH: 25
267 <212> TYPE: DNA
268 <213> ORGANISM: Synthetic
270 <400> SEQUENCE: 30
271 catgccggg tacctttcta ttctc 25
273 <210> SEQ ID NO: 31
274 <211> LENGTH: 20
275 <212> TYPE: DNA
276 <213> ORGANISM: Synthetic
278 <400> SEQUENCE: 31
279 ccctcatagt tagcgtaacg 20
281 <210> SEQ ID NO: 32
282 <211> LENGTH: 10
283 <212> TYPE: PRT
284 <213> ORGANISM: Synthetic
286 <220> FEATURE:
287 <223> OTHER INFORMATION: At position 5, X = Selenocysteine
289 <400> SEQUENCE: 32
290 Ser Ala Arg Val Xaa His Gly Pro Ser Val
291 1 5 10
294 <210> SEQ ID NO: 33
295 <211> LENGTH: 85
296 <212> TYPE: DNA
297 <213> ORGANISM: Synthetic
299 <220> FEATURE:
300 <223> OTHER INFORMATION: M = A or C
302 <220> FEATURE:
303 <223> OTHER INFORMATION: N = A, C, T or G
305 <400> SEQUENCE: 33
306 catgttttcgg ccgattggtg cagacctgca accgamnnnn nmntcamnn mnnnnnnmna 60
307 gagtgagaat agaaaggtac ccggg 85
309 <210> SEQ ID NO: 34
310 <211> LENGTH: 85
311 <212> TYPE: DNA
312 <213> ORGANISM: Synthetic
314 <220> FEATURE:
315 <223> OTHER INFORMATION: M = A or C
317 <220> FEATURE:
318 <223> OTHER INFORMATION: N = A, C, T or G
320 <400> SEQUENCE: 34
321 catgttttcgg ccgattggtg cagacctgca accgamnnnn nmnatcamnn mnnnnnnmna 60
322 gagtgagaat agaaaggtac ccggg 85
324 <210> SEQ ID NO: 35
325 <211> LENGTH: 8
326 <212> TYPE: PRT

```

The following information has been determined in the Sequence Listing.  
To ensure proper labeling to ensure a corresponding  
explanation is presented in the <220> to <223> fields of  
each sequence using n or Xaa.

## VERIFICATION SUMMARY

PATENT APPLICATION: US/09/937,187

DATE: 02/06/2002

TIME: 18:41:32

Input Set : A:\Neb-164.app

Output Set: N:\CRF3\02062002\I937187.raw

:11 M:270 C: Current Application Number differs, Replaced Application Number  
:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
:33 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:1  
:33 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:1  
:33 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1  
:252 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:28  
:252 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:28  
:252 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28  
:290 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:32  
:290 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:32  
:290 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32  
:306 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:33  
:306 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:33  
:306 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33  
:321 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:34  
:321 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:34  
:321 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34  
:383 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:40  
:383 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:40  
:383 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40  
:397 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:41  
:397 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:41  
:397 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41